

**REMARKS**

The Examiner's continued attention to the present application is noted with appreciation.

The Examiner rejected claims 1-2, 5, 7, and 9 under 35 U.S.C. § 102(e), as being anticipated by Draganov et al. This rejection is traversed, particularly as to the amended claims. Draganov et al. is directed to a telescope wherein each of the optical elements are arranged on the optical axis. In contrast, Applicants' amended independent claim 1 is directed to "A three mirror off-axis anastigmatic optic" wherein the tertiary mirror has "a focal point which lies off the optical axis". The amendments to claim 1 adds no new matter. Support for the amendments to independent claim 1 can be found in each of Figs. 1, 2, and 3. As clearly depicted in Figs. 1, 2, and 3, the focal point of tertiary mirror 16 lies off the optical axis. As such, independent claim 1 and dependent claims 2-3, and 5-10 are not anticipated by Draganov et al. and are thus allowable over the prior art.

The Examiner rejected claims 3, 6, 8, and 10 under 35 U.S.C. §103(a) as being unpatentable over Draganov et al. in view of Wetherell et al. This rejection is traversed, particularly as to amended independent claim 1. As previously discussed, Draganov et al. fail to disclose an off-axis anastigmatic optic wherein a focal point of the tertiary mirror lies off the optical axis. Wetherell et al. further fail to disclose an off-axis anastigmatic optic comprising a "vertex common to said primary and tertiary mirrors located at a junction of said primary mirror and said tertiary mirror", as claimed by Applicants. Wetherell et al. further fail to disclose an off-axis anastigmatic optic "wherein said primary and tertiary mirrors abut one another", as further claimed in Applicants' independent claim 1. As can be easily understood from studying Wetherell et al.'s Figs. 3 and 4, primary mirror 31 does not abut tertiary mirror 33. As such, no combination of Draganov et al. and Wetherell et al. can result in Applicants' independent claim 1. Because claims 3, 6, 8, and 10 are dependent upon independent claim 1, those claims are also allowable over the combination of Draganov et al. and Wetherell et al.

In addition to the foregoing arguments, any combination of Draganov et al. with Wetherell et al. is inappropriate. This is because the combination of the two inventions would necessitate a fundamental

alteration in at least one of the prior art references. This combination of dissimilar prior art references is contrary to the law established by the court in *In re Ratti*, 270 F.2d 810, 123 U.S.P.Q. 349 (CCPA 1959). In that case, the court held that "[i]f the proposed modification or combination of the prior art would change the principle of operation of the prior art invention being modified, then the teachings of the references are not sufficient to render the claims *prima facie* obvious." In essence, that case relied upon a change to a device wherein Patentee taught that the device required rigidity for operation, whereas the claimed invention required resiliency. The court further held that the "suggested combination of references would require a substantial reconstruction and redesign of the elements shown in [the primary reference] as well as a change in the basic principle under which the [primary reference] construction was designed to operate." (*Id.* at 813).

In the present application, the principal operation of Applicants' invention relies on an off-axis design wherein electromagnetic waves, which are traveling a first direction before coming into contact with any portion of Applicant's invention, have their direction completely altered such that after coming into contact with Applicants' invention, the electromagnetic waves are forced to travel in a direction back toward the source. This is fundamental alteration of the design of Draganov et al. wherein electromagnetic waves entering the Draganov et al. device exit the device in a direction which is away from the source and further is in a direction substantially in alignment with that of the entering electromagnetic waves. The Examiner's combination of Wetherell et al. with Draganov et al. requires that the off-axis image plane 36 of Wetherell et al. be added to the on-axis telescope of Draganov et al., thus converting the on-axis operation of Draganov et al. into an off-axis device. This is yet another fundamental alteration of the telescope of Draganov et al. which is an even more substantial change to the prior art than the rigidization of an otherwise flexible member as addressed by the court in *In re Ratti*. In addition, the Examiner's combination of Draganov et al. with Wetherell et al. to reject Applicant's invention requires that primary optic 31 and tertiary optic 33 of Wetherell et al. (see Fig. 4) be forced to abut to one another, thus resulting in yet another fundamental alteration of the prior art.

The Examiner rejected claims 11-12, 15, 17, and 19 under 35 U.S.C. §103(a) as being unpatentable over Wetherell et al. It is believed that this is a typographical error in that all of the Examiner's comments regarding this rejection are directed to the disclosure of Draganov et al. and not to Wetherell et al. As such, the following remarks relate to the disclosure of Draganov et al. This rejection is traversed, particularly as to the amended claims. Independent claim 11 has been amended such that it relates to "a method for making an off-axis three mirror anastigmatic optic" and comprises the step of "adjusting the mirrors such that an electromagnetic wave reflected from the tertiary mirror is caused to travel to a position near, but not on the secondary mirror". No new matter is presented by the amendment to claim 11. Support for the amendment is easily found by observing Figs. 1, 2, and 3 of the application as originally filed. Draganov et al. is directed to an on-axis telescope wherein light reflects from tertiary mirror 208 back onto secondary mirror 204 and from secondary mirror 204 back through aperture 210 in a direction which is on-axis with the incoming electromagnetic wave. Accordingly, Draganov et al. disclose a device which is completely different from Applicant's claimed invention. Additionally the manner of operation of the Draganov et al. invention is completely different from Applicants' invention and one would not reasonable modify the fundamental arrangement of Draganov et al. to such an extent as to render Applicants' claimed invention obvious. For example, aside from fundamentally altering the on-axis design of Draganov et al. to the off-axis design of Applicants, one would also be required to alter the shape, type, and arrangement of primary mirror 206, and 208 of Draganov et al. such that an electromagnetic wave reflected from the tertiary mirror is caused to travel to a position near, but not on the secondary mirror. Such a fundamental alteration of Draganov et al. would not be made by one skilled in the art without having prior knowledge of Applicants' invention. In addition, this fundamental alteration of the prior art is also contrary to the law established by the court in *In re Ratti*. Applicant's independent claim 11, as well as dependent claims thereof, including dependent claims 12, 15, and 17 are thus also allowable over the prior art of Draganov et al.

Applicants' claim 19 has also been amended such that it relates to an anastigmatic optics method which comprises the step of "adjusting the mirrors such that the tertiary mirror has a focal point which is off the optical axis". In addition to the foregoing remarks relating to the Examiner's rejection being contrary to the law established in *In re Ratti*, as well as the remarks describing that one would not so fundamentally alter Draganov et al. without having prior knowledge of Applicant's invention, the tertiary mirror of Draganov et al. also clearly has a focal point which is on the optical axis, as claimed by the Applicants. As such, independent claim 19, and the dependent claims thereof are allowable over the prior art.

The Examiner rejected claims 13 and 20 under 35 U.S.C. §103(a) as being unpatentable over Draganov et al. in view of Wetherell et al. This rejection is traversed, particularly as to amended independent claims 11 and 19. As previously discussed, any rejection which requires the combination of Draganov et al. with Wetherell et al. fundamentally alters one or both of those designs and thus such a rejection is contrary to established law cited above. In addition, even if one does combine the teachings of those applications, and fundamentally alters either or both of those designs, Applicant's claimed invention will not result. As such, independent claims 11 and 19 are allowable over the prior art and thus claims 13 and 20, which depend thereon, are also allowable over the prior art.

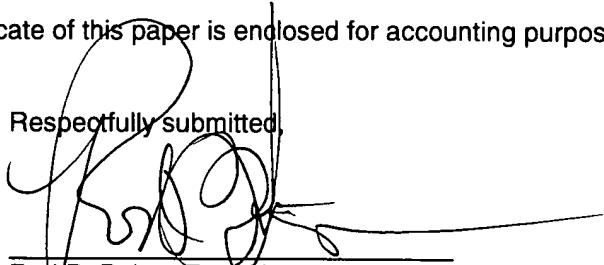
In view of the above amendments and remarks, it is respectfully submitted that all grounds of rejection and objection have been avoided and/or traversed. It is believed that the case is now in condition for allowance and same is respectfully requested.

If any issues remain, or if the Examiner believes that prosecution of this application might be expedited by discussion of the issues, the Examiner is cordially invited to telephone the undersigned attorney for Applicant at the telephone number listed below.

Also being filed herewith is a Petition for Extension of Time to January 14, 2006, with the appropriate fee. Authorization is given to charge payment of any additional fees required, or credit any overpayment, to Deposit Acct. 13-4213. A duplicate of this paper is enclosed for accounting purposes.

Respectfully submitted,

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